

1 **ABSTRACT**

2 A method for efficiently comparing two trinary logic representations, including
3 the steps of creating a first data structure (a VALUE data structure) representative of a
4 first set of properties; creating a second data structure (a KNOWN data structure)
5 representative of whether the first set of properties is known; creating a third data
6 structure (a TARGET data structure) representative of a target set of properties; creating
7 a fourth data structure (a WANT data structure) representative of whether the target set of
8 properties is wanted; and comparing the first, second, third, and fourth data structures
9 using bit-wise binary operations to determine whether the first set of known properties
10 are wanted as a target set of properties. In exemplary embodiments, the bit-wise binary
11 operations are performed according to the Boolean equation: (not WANT) or (KNOWN
12 and ((TARGET xor VALUE))). Alternatively, the bit-wise binary operation are
13 performed according to the Boolean equation: (not WANT) or (KNOWN and ((TARGET
14 and VALUE) or ((not TARGET) and (not (VALUE)))). These data structures may be any
15 size computer word, including 16 and 32-bit words.

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